APPENDIX F
FISHERIES AND WILDLIFE RESOURCES

F.1 INTRODUCTION

Fisheries and wildlife resources in the project area and in the greater watershed are a remnant of their historical populations. Although decreases in fish and animal populations are due to other factors including land development, past over-harvest, and habitat degradation among other reasons, Milltown Dam has also had an important influence on fish and wildlife populations in the Clark Fork River (CFR) and Blackfoot River (BFR) watersheds.

The following sections include information on the historical, existing, and desired future conditions for fisheries and wildlife resources in the CFR and BFR confluence area. Presented information is weighted towards fisheries resources due to the greater amount of data that have been collected on Milltown Dam's influence on native fisheries, primarily bull trout *Salvelinus confluentus*, and westslope cutthroat trout *Oncorhynchus clarki lewisi*.

F.2 Historical Fisheries Resources

The native fisheries of the CFR and BFR have experienced a multitude of environmental changes since the early 1800s when the Lewis and Clark Expedition documented fish and wildlife species in western Montana. Watershed development, fish species introductions, and angling have altered the fish community that historically inhabited the CFR drainage. The contemporary fish assemblage is a reflection of the anthropogenic changes that have occurred in the watershed over the past 200 years. The presence of Milltown Dam has been an influential landmark at the confluence of the CFR and BFR since its construction in 1907. The dam has been instrumental in altering the historical physical and biological processes that once characterized the two rivers.

Historical accounts of fisheries resources in western Montana focus on westslope cutthroat trout and bull trout, suggesting the importance of these species to early settlers and native tribes that inhabited the area. The Lewis and Clark Expedition noted the presence of wildlife and fish species that had not been described by European-Americans prior to the Expedition (Moulton, 1993a). The Corps of Discovery provided the first description of westslope cutthroat trout on June 13, 1805 (cited in Burroughs, 1961).

> *Goodrich had caught half a dozen very fine trout and a number of both species of the white fish. These trout* [*Oncorhynchus clarki lewisi*] *(caught in the falls) are from sixteen to twenty-three inches in length, precisely resemble our mountain or speckled trout in form and the position of their fins, but the specks on these are of a deep black instead of the red or gould colour of those common to the U'. States. these are furnished long sharp teeth on the pallet and tongue and have generally a small dash of red on each side behind the front ventral fins; the flesh is of a pale yellowish red or when in good order of a rose red…*

Additional reference to the westslope cutthroat trout made in the Lewis and Clark journals included the following passage (cited in Department of War, 1859, p. 319).

> *the mountain or speckled trout are found in the waters of the Columbia, within the mountains. They are the same with those found in the upper part of the Missouri, but are not so abundant in the Columbia as in that river.*

Dr. George Suckley, the physician and naturalist assigned to the Stevens' expedition that surveyed 47th parallel for a possible route for the Northern Pacific Railroad, characterized flora and fauna that he encountered between 1853-1854. Suckley, an observant naturalist detailed the expedition's natural history findings as well as mapped the Bitterroot, Clark Fork, and Columbia rivers from present day Stevensville, Montana to Vancouver, Washington during a canoe trip from October 15 to December 6, 1853 (Suckley, 1853). Concerning the differentiation of westslope cutthroat captured in the Missouri River and the Columbia River, Suckley noted (Department of War, 1859, p. 319)

> *It wold be an interesting point to compare, side by side, specimens caught in the Columbia with others from the Missouri. We should not be surprised if the result of such a comparison should refer the specimens from the basin of the Columbia either to Fario gairdneri* [*Oncorhynchus mykiss*], *or else prove a distinct species*.

Suckley's westslope cutthroat trout specimens that he caught at the Great Falls on the Missouri River, and later preserved and sent to the Smithsonian Institution, served as the typical specimen used by Dr. Charles Girard to characterize the species (Department of War, 1859, p. 320).

Westslope cutthroat trout, and undoubtedly other species, provided food for the early expeditions through the Missoula Valley. As noted by Governor Stevens in 1853, Indian guides provided the expedition with fresh fish (Stevens, 1856). Suckley also noted that prevalence of westslope cutthroat trout in the tributaries to the Bitterroot River in the vicinity of Ft. Owen (present day Stevensville) (Suckley, 1853).

> *The streams abound in trout here average size being larger than our eastern species. spoted and marked much like the trout I caught in the Missouri River and are likewise remarkable for not having any red spots along the belly. small fish are caught in the pools which are unlike any I have heretofore seen. Specimens of all …were secured.*

Seven years later as Captain John Mullan advanced the Military Road through the CFR Valley, Mullan remarked, "Game is in abundance in the shape of deer and sheep, and all the streams are filled with trout" (Mullan, 1863).

F.2.1 Historical Fish Species Composition

The historical fish community of the middle CFR Drainage included nine species. Families and species included salmonidae (bull trout *Salvelinus confluentus*, westslope cutthroat trout *Oncorhynchus clarki lewisi*, and mountain whitefish *Prosopium williamsoni*); catostomidae (large scale sucker *Catostomus macrocheilus* and longnose sucker *C. catostomus*); cyprinidae

(longnose dace *Rhinichthys cataractae*, peamouth *Mylocheilus caurinus*, and redside shiner *Richardsonius balteatus*); and cottidae (slimy sculpin *Cottus cognatus*).

F.3 Existing Fisheries Resources

The CFR and BFR maintain important fisheries in western Montana. Substantial efforts have documented the effects of Milltown Dam on the fish community including the influence of the dam on fish passage, habitat degradation, and enhancing conditions for deleterious introduced species including northern pike *Esox lucius*. The existing fish community found in the CFR drainage today is very different from the historical community that existed prior to the arrival of European-Americans in western Montana. The following sections document the existing fish community, evaluate fish species interactions and population dynamics, and present several of the effects of Milltown Dam and reservoir on the fish community. Reported information was provided by Mr. David Schmetterling and Mr. Ladd Knotek of Montana Fish, Wildlife & Parks (MFWP).

F.3.1 Existing Fish Species Composition

The fish community of the CFR and BFR has become more diverse over time with the introduction of non-native species. In addition to the nine native species that were listed in the Historical Fish Species Composition section, eight additional species have been added to the historical fish community. Introduced species include northern pike, largemouth bass *Micropterus salmoides*, eastern brook trout *S. fontinalis*, rainbow trout *O. mykiss*, brown trout *Salmo trutta*, yellow perch *Perca flavescens*, white suckers *C. commersoni*, and pumpkinseed *Lepomis gibbosus*.

MFWP manages the CFR and BFR for wild fish, with an emphasis on native species. Protective angler restrictions and a public education effort promoting catch and release fishing have raised anglers' awareness of native species issues especially pertaining to rehabilitating westslope cutthroat trout and bull trout populations (Schmetterling and Long, 1999; Schmetterling and Bernd-Cohen, 2002). Additionally, bull trout are garnered federal protection as a threatened species under the U.S. Endangered Species Act administered by the U.S. Fish & Wildlife Service (USFWS, 1998). Westslope cutthroat trout are recognized by the State of Montana as a species of special concern. The U.S. Fish & Wildlife Service was petitioned by a consortium of conservation groups in 1997 to list the westslope cutthroat trout as a threatened species. The petition was denied in 2000 when the USFWS declared that protecting westslope cutthroat trout as threatened species was not warranted (USFWS, 2000; 2003).

F.3.2 Fish Species Interactions and Population Dynamics

MFWP completes annual fish sampling in the CFR River downstream of Milltown Dam for monitoring trends in adult salmonid abundance, size structure, and species composition (Knotek, 2005). In addition to earlier monitoring programs (Berg, 1999 *cited in* Knotek, 2005), MFWP completed sampling on the 3.6 mile Milltown Section of the CFR downstream from Milltown Dam annually from 1999 to 2004 (Knotek, 2005). This reach extends from the Burlington Northern-Santa Fe railroad bridge downstream of the dam to a large riffle gradient break

downstream of the Interstate 90 bridge (Knotek, 2005). Goals of the Milltown Section sampling include, "assessing the acute and chronic impacts of elevated toxic pollutants, drought and the recent introduction and establishment of northern pike" (Knotek, 2005).

Sampling results suggest that adult salmonid populations in the Milltown Section fluctuated over the 1999 to 2004 sampling period. Population density changes over time were attributed to several environmental factors including drought, periods of poor water quality due to contaminated sediment releases from Milltown reservoir, and inconsistent juvenile recruitment into the adult population (Knotek, 2005). The establishment of a reproducing northern pike population in Milltown reservoir is also believed to affect the composition of adult salmonid populations in the Milltown Section (Schmetterling, 2001).

The illegal introduction of northern pike into the BFR drainage in the early 1990s resulted in a change in fish population dynamics in Milltown reservoir and downstream from the dam. Sampling in the late 1990s and early 2000, determined that northern pike were preying on bull trout, westslope cutthroat trout, and other native and introduced fish species (Schmetterling, 2001). Over an eight day sampling period in the spring of 2000, Schmetterling found nine bull trout and seven westslope cutthroat trout or rainbow trout in stomachs from 16 northern pike (2001). Twenty-nine percent of the northern pike that were sampled had consumed bull trout or westslope or rainbow trout (Schmetterling, 2001). Of the 24 pike that had a food item in their stomach, 67 percent of the pike had consumed a bull trout, or a westslope cutthroat or rainbow trout (Schmetterling, 2001). Schmetterling noted that juvenile bull trout comprised the most frequent food item consumed by northern pike during the sampling period. The results suggest northern pike had a substantially affected the focus native salmonid species during the spring migration when juvenile salmonids were migrating through the reservoir. Pike impacts on native species may have been especially elevated during the sampling period due to the influence of low water conditions on habitat volume (Schmetterling, 2001). Low water conditions may have increased the probability of pike encountering prey items during the sampling period. Based on other data, the results suggest that the elevated predation rate on juvenile bull trout and westslope cutthroat or rainbow trout during the spring migration was not consistent throughout the year (Schmetterling 2001).

F.3.3 Effects of Milltown Dam and Reservoir on the Fish Community

There are three primary effects of Milltown Dam and the reservoir on the fish community. First, the dam has served as a fish passage barrier to migrating fish since it was constructed in 1907. Secondly, contaminated sediments that are stored behind the dam are periodically scoured and discharged downstream. Mobile heavy metals and arsenic within the deposited sediment negatively affect the fish community in and downstream from Milltown reservoir. Lastly, Milltown Dam has created a reservoir environment that has provided beneficial habitat for northern pike. MFWP studies have determined that northern pike prey on bull trout and westslope cutthroat trout in addition to other sport fishes including rainbow trout.

F.3.3.1 Milltown Dam as a Fish Passage Barrier

The function of Milltown Dam as a fish passage barrier is well documented (Swanberg, 1997; McEvoy, 1998; Schmetterling and McEvoy, 2000; Schmetterling and McFee, *in review*). The location of the dam effectively impacts 11 fluvial fish populations from both the CFR and Blackfoot drainages (Schmetterling, 2003). Due to the long period of time that the dam has been in place, it has likely had a negative effect on fluvial life history forms of several native species including bull trout (Swanberg, 1997), westslope cutthroat trout (Schmetterling, 2001; 2003), large scale suckers (McEvoy, 1998; Schmetterling and McFee, *in review*), and mountain whitefish (Schmetterling, 2003) among others. Although it is unclear to what extent the dam has influenced fluvial fish populations, it is likely that the migratory life history component of some of these populations has been truncated or substantially degraded by Milltown Dam.

A related effect of the dam is the loss of fish from upstream populations when fish pass over the dam, but are unable to return to their natal tributaries or main stem habitats (Schmetterling and McEvoy, 1999; Schmetterling, 2003). Loss of these fish from upstream tributaries and the main stem CFR and BFR may affect nutrient cycling, food web interactions, and fish population dynamics (e.g. subpopulation isolation, reduced fish recruitment to the population).

Fluvial bull trout population estimates continue to exist at extremely low abundances in the middle CFR, with an estimated 1-2 adult bull trout per mile in most sampled reaches (Knotek, 2005). Although depleted abundance estimates are due to a wide range of factors (e.g. historical angling pressure, habitat degradation), the construction of hydroelectric dams on the CFR between Bonner and Lake Pend Oreille in western Idaho have dramatically impacted fluvial bull trout populations in the entirety of the CFR drainage. While bull trout have responded to angling restrictions and habitat restoration efforts undertaken in the BFR drainage, bull trout have not responded to similar efforts in the CFR drainage. Although the cause of this discrepancy is unclear, main stem and tributary habitat degradation in addition to past bull trout over-harvest are assumed to be the primary factors accounting for low bull trout populations in the CFR (Knotek, 2005).

Schmetterling has also found that the location of Milltown Dam at the confluence of the CFR and BFR has an influence on fish migration patterns (Schmetterling, 2003; *in review*). BFR and CFR water flowing over the dam tends to not mix completely until downstream from the dam due to the dam's configuration and operation. Over the course of the hydrograph, water passing over the dam may be dominated by CFR or BFR water depending on discharge levels and dam operations. In studies completed by Schmetterling (*in review*), fish movement in the tailrace below the dam was significantly related to the dominant water source at the time of the fish movement. Fish that were initially captured in the tailrace with a particular dominant water source, showed distinctive movements around the tailrace when their natal water source again dominated the discharge through the tailrace. Fish rarely entered the tailrace when the dominant water source was different than the one in which they were initially captured (Schmetterling, *in review*). The significance of these findings suggest that Milltown Dam functions as a physical barrier in addition to affecting fish homing response to waterborne cues that would lead them to their natal stream if their migration was not impeded by the dam.

F.3.3.2 Contaminated Sediment Discharge

Sediments stored behind Milltown Dam have varying levels of heavy metal and arsenic contamination. The 1908 flood of record mobilized a large volume of mining and milling wastes from the Upper CFR watershed and deposited the material upstream of Milltown Dam (USEPA, 2004). Approximately 6.6 million cubic yards of sediment are stored in Milltown reservoir (Atlantic Richfield Company 1995). Periodic scouring of the historical and more recently deposited sediments during elevated runoff events and/or ice floes, discharge contaminated materials to the CFR downstream from the dam. Discharge of contaminated sediment was implicated in causing major population declines downstream of Milltown Dam following the 1996 ice floe and runoff event on the BFR and CFR following draw down of the reservoir that was necessary to protect the dam from ice scour (USEPA, 2004; Knotek, 2005). Copper levels measured in the ensuing flood were elevated to concentrations nearly 17 times greater than the baseline value for acute levels (Montana DEQ, unpublished data, 1997 *cited in* Knotek, 2005). The population decline appeared to last approximately 6 years as rainbow and brown trout densities recovered to near their long-term averages by 2002. Drought years in 2000 and 2001 may have also affected the rate of fish population recovery (Knotek, 2005).

F.3.3.3 Milltown Reservoir and an Altered Riverine Environment

Milltown Dam has converted the confluence of the CFR and BFR into a slow-flowing aquatic environment characterized by expansive backwater channels, wetlands, and low water velocities. Although the dam has created diverse aquatic habitat, it has also provided habitat for northern pike. Northern pike were first detected in the CFR downstream of Milltown Dam in 1999 (Knotek, 2005). It is believed these fish were derived from an illegal introduction of northern pike into the Clearwater River drainage (a BFR tributary) in the early 1990s (Schmetterling, 2001). Maintenance of a stable reservoir environment provides ideal conditions for pike spawning and juvenile rearing. Pike found in the CFR downstream from the dam are assumed to be upstream emigrants.

Pike population estimates in the Milltown Section have reflected population estimates in the reservoir. Declines in the pike population were apparent in the Milltown Section in 2004, suggesting a similar decrease in the reservoir population. This decrease is attributed to pike suppression efforts in the reservoir that have been on-going since 1999 (Schmetterling 2001; Knotek, 2005). A combination of reservoir management (August drawdown to strand young-of-year and age 1 classes), increased angling pressure, and active removal of northern pike from the reservoir have decreased pike densities in the reservoir (D. Schmetterling, MFWP, pers. comm.)

F.4 Fisheries Resources Desired Future Conditions

The desired future condition for the CFR and BFR fisheries includes re-establishing fish passage through the project area, further reducing pike population densities, and realizing the full range of historical native fish species' life histories. Removal of Milltown Dam and the contaminated sediments stored behind the dam will largely address the desired future condition goals. Continued monitoring of the project by MFWP will evaluate how native and introduced species respond to the dam removal and planned channel restoration efforts.

Re-establishing fish passage at the confluence of the CFR and BFR would benefit native species throughout the region. Studies by Schmetterling, McEvoy, and Swanberg among others, documented the range of species exhibiting spawning migration behaviors. Re-establishing the migratory pathway for thousands of fish would be expected to benefit upstream populations that are currently isolated from downstream populations by the dam. Improving fish passage and genetic exchange with upstream population would increase population genetic diversity, making the population more resistant to periodic environmental fluctuations or anthropogenic pressure. For example, Schmetterling estimated that improved passage over Milltown Dam could add 20 percent more adult spawners to bull trout populations in the North Fork Blackfoot River and Monture Creek, two critical spawning tributaries for BFR bull trout (Schmetterling, 2003).

Dam removal and channel reconstruction will convert the existing reservoir to a riverine environment. Although off-channel habitats will be constructed during channel restoration, there will be substantially less backwater habitat connected to the main stem CFR channel and BFR channels during low flow periods. Reduction in this type of aquatic habitat is expected to reduce the amount of available rearing habitat for northern pike in the immediate area. Although pike will likely continue to occupy the confluence, this area will no longer provide ideal pike nursery habitat. The channel restoration project is expected to convert the project area from a current pike source to primarily lower quality adult pike habitat similar to existing riverine conditions upstream and downstream from the Milltown reservoir. With the removal of the pike nursery habitat, pike numbers in the downstream reaches of the CFR River are expected to decrease below the estimated average of 19 northern pike per mile (Knotek, 2005). Reductions in adult pike may result in population increases for bull trout, westslope cutthroat, rainbow, and brown trout through the project area.

A more long-term desired future condition goal is re-establishment of the fluvial life history form of native species inhabiting the CFR drainage. Removal of Milltown Dam will better connect fish populations in the Clark Fork, Blackfoot, and Bitterroot river drainages. Extensive fish movements documented via radio telemetry studies on bull trout (Swanberg, 1997), westslope cutthroat trout (Schmetterling, 2001), and largescale suckers (Schmetterling and McFee, *in review*) illustrate the extensive migrations of native species. Milltown Dam has effectively truncated these migrations for nearly 100 years, potentially decreasing the frequency of the fluvial life history within some species.

F.5 Historical Wildlife Resources

Lewis and Clark kept extensive notes of the flora and fauna they encountered during their expedition. Lewis noted in early July 1806 while in the Bitterroot Valley (Moulton, 1993b):

> *The dove* [mourning dove] *the black woodpecker* [Lewis's woodpecker], *the lark woodpecker* [common or northern flicker], *the logcock, the prairie lark* [probably the horned lark], *sandhill crain, prairie hen with the shore and pointed tail* [sharp-tailed grouse], *the robin, a speceis of brown plover* [probably the upland sandpiper], *a few curloos, small black birds* [rusty blackbird or Brewer's blackbird], *ravens, hawks and a variety of sparrows as well as the bee martin* [eastern or western king bird, more likely the latter] *and the several speceis of Corvus genus are found in this vally.*

Deer were also an important food item for the Expedition. Further west in the St. Joseph drainage, P.M. Engle with the Topographical Engineers attached to the Mullan Expedition in surveying potential locations for the Military Road in 1860, noted (Mullan, 1861):

> *In returning the Indian set fire to the woods himself, and informed us that he did it with the view to destroy a certain kind of long moss, which is a parasite to the pine trees in this region, and which the deer feed on in winter season. By burning this moss the deer are obliged to descend into the valleys for food, and thus they have a chance to kill them.*

Engle's observation suggests the role of native tribes in managing their landscape and animal populations. Journals related to the 1853-1854 and 1860-1863 expeditions that surveyed and later constructed the Military Road through Montana, Idaho, and Washington made note of wildlife and birds. Naturalists including George Suckley and George Gibbs provided early descriptions of wildlife resources throughout the region.

Specific historical data for wildlife was not researched for this report. It is likely that many of the wildlife and birds species presently found in the CFR and BFR drainages also inhabited the region in historical times. Because wildlife and bird populations are dependent on vegetation communities, it is to be expected that wildlife in general were more common historically than they are at present. More contiguous vegetation units unimpeded by anthropogenic land uses would have provided larger habitat patches.

Fire and periodic flooding would have influenced the distribution of habitat patches on the floodplain and upland environments. Remnant river channel oxbows and other floodplain wetlands would have supported many waterfowl species and secretive marsh birds. Migratory species including sandhill cranes *Grus canadensis*, would have used the wetlands as a stopover in migration. Larger areas of riparian vegetation would have meant a decrease in the amount of edge habitat (the border between riparian and prairie and agriculture habitats). Raptors and other species would have inhabited the floodplain and nested in mature cottonwoods. Snags provided nesting sites for cavity-nesting species including owls and woodpeckers.

Large ungulates including elk *Cervus elaphu*, moose *Alces alces,* mule deer *Odocoileus hemionus*, and whitetail deer *Odocoileus virginianus,* occupied the project area. Carnivores including mountain lions *Felis concolor*, and wolves *Canis lupis*, would have preyed on ungulates. Black bears *Ursus americanus*, grizzly bears *Ursus arctos horribilis*, coyotes *Canis latrans*, and other small mammals would have also inhabited the confluence area in historical times. Beaver *Castor canadensis,* would have influenced the distribution and character of wetlands and off-channel habitats connected to the CFR.

F.6 Existing Wildlife Resources

The existing wildlife species inhabiting the CFR and BFR confluence area reflects both the historical community and the effects of Milltown reservoir and river corridor development. The contiguous riparian vegetation assemblages that historically characterized the river corridor are now affected by land development, the transportation corridor, and agricultural use of the

historical floodplain. Land uses have converted the contiguous plant communities to smaller patch sizes that are less resilient to noxious weed invasions and environmental fluctuations (fire and floods), and offer more simplified habitat for birds and wildlife. Habitat simplification benefits other species like the brown-headed cowbirds *Molothrus ater*. A parasitic bird species, the cowbird which was historically limited to grasslands of central North America, has rapidly expanded its range with the settlement of the West. Cowbirds flourish in small habitat patches dominated by edge habitat. Proximity of livestock and human habitation further benefits cowbirds to the detriment of native bird species. Cowbirds present in the project area may influence other bird populations.

Although habitat modifications have affected some bird species, waterfowl may benefit from the extensive backwaters and wetlands created by Milltown Dam. Waterfowl, such as grebes, herons, swans, ducks, cormorants, and mergansers; raptors such as hawks, eagles, osprey, and kestrels; and song birds and other bird species, such as doves, pheasants, hummingbirds, and woodpeckers are found throughout the project area (EPA, 2004).

Mule deer, white tail deer, moose, black bears, coyotes, and other small mammals continue to reside in the project area. Grizzly bears and elk may infrequently migrate through the project area. Wolves are not known to inhabit the area although they are found throughout the region.

F.7 Wildlife Resources Desired Future Conditions

The Draft Restoration Plan will re-establish a free-flowing river and adjacent floodplain environments through the project area. Floodplain reconstruction will grading the floodplain to create diverse topography and a range of wetland types including open water ponds, discontinuous floodplain channels, and backwater habitats. An intensive revegetation plan (see Appendix G) is proposed to initiate vegetation recovery following channel and floodplain reconstruction. Draft planting plans are designed to emulate native species distributions according to site hydrology and topographic elevations. Increasing the long-term patch size of forest and shrub habitats, reducing the amount of edge between riparian and developed areas, and ensuring no net loss of mature, deciduous-forest downed wood and snags of all sizes will benefit restoration efforts and speed ecological recovery.

Many species including mountain lions, bears, large ungulates, and other small mammals rely on interconnected habitats for migration corridors. Removing Milltown Dam and restoring the CFR and BFR migration corridors is expected to benefit migratory wildlife species. Rebuilding the river channels and floodplain will also expand the width of the migration corridor. Long-term vegetation recovery will also improve corridor conditions.

F.8 Fisheries and Wildlife Resources Summary

The construction of Milltown Dam in 1907 and subsequent anthropogenic activities in the CFR and BFR drainages have had profound impacts on native fish and wildlife populations. The dam has effectively barred fish from moving upstream of the dam and decreased the value of CFR as a wildlife migration corridor. Further, the reservoir upstream of the dam contains a large volume of contaminated sediment that are periodically scoured, delivering heavy metals and arsenic to

downstream reaches. While pike eradication efforts have substantially reduced pike densities in the reservoir (David Schmetterling, MFWP, per. comm.) and in the downstream Milltown Section sampling reach (Knotek, 2005), the reservoir continues to serve as a source of northern pike.

Removal of Milltown Dam and reconstruction of the CFR and BFR are expected to restore fish passage and population connectivity for the CFR fish community. Re-establishing fish passage is expected to result in the full expression of fluvial life histories for several species including bull trout, westslope cutthroat trout, and large scale suckers. Other species such as mountain whitefish and slimy sculpin (Schmetterling and Adams, 2004) are expected to benefit from a reconnected river corridor. Similar benefits are expected for wildlife once Milltown Dam is removed and the reservoir is replaced with a free-flowing river. Expanding the corridor width and enhancing riparian vegetation condition are expected to increase wildlife movements through the project area.